

Remarks

Claims 1-20 are pending and rejected. By this Response, claims 14-20 are amended leaving claims 1-13 unchanged.

DRAWINGS

The drawings were objected to under 37 CFR 1.83(a). New Figure 3 has been added which shows a passenger compartment, a control unit, an analog or digital interface, a structural unit, and a cooling heating device. All of the features of Figure 3 were fully supported in the specification as originally filed. Specifically, the passenger compartment, the vehicle, the fan, the control unit, the circulating air flap and the heating/cooling device were described in paragraph [00017]. Likewise, the sensor for detecting hazardous gas concentrations and the CO2 sensor were described in paragraph [00018], and the sensor for measuring the ambient temperature and the structural unit were described in paragraph [00019]. Thus, no new matter has been introduced through the addition of Figure 3.

SPECIFICATION

The content of the Abstract has been amended to avoid phrases which can be implied and to reduce the length of the Abstract to the range of 50 – 150 words. Likewise, the arrangement of the specification has been amended per the Examiner's request. No new matter has been introduced through these amendments.

Paragraphs [00017] – [00024] have been amended to insert part numbers corresponding to the parts shown in newly added Figure 3. Furthermore, paragraph [00019] has been amended to describe the interface. Support for the addition of the description of the interface can be found in the specification as originally filed. Specifically, paragraph [00011] under the Section Heading SUMMARY OF THE INVENTION included a complete description of the interface which fully supports the amendments to paragraph [00019] and claim 10 as originally filed. No new matter has been introduced through these amendments.

CLAIM OBJECTIONS

Claims 14-20 were objected for depending from Claim 11, an apparatus claim, but being introduced as method claims. Claims 14-20 have been amended to be introduced as apparatus claims corresponding to Claim 11. No new matter has been introduced through these amendments. Withdrawal of the objection is respectfully requested.

CLAIM REJECTIONS

Claims 1-7, 10-11 and 13-18 are rejected under 35 U.S.C. §102(b) as being anticipated by Chatterjee (U.S. Patent 6,471,136). Claims 8-9, 12 and 19-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chatterjee in view of being optimum values.

The present invention is directed to a method to regulate a circulating air portion and/or intake air portion in a passenger compartment of a vehicle. The regulation is based on a quick and precise detection of hazardous gas concentrations without any influence of the temperature. The sensor for detecting hazardous gas concentrations is therefore operated as a temperature-compensated sensor, whereby the temperature measured by the sensor for temperature compensation is in addition used to regulate the circulating air portion and/or intake air portion, especially the ratio of these portions, in the passenger compartment (please see [0005] and claim 1). The temperature-compensated sensor according to the invention is not only applicable for detecting gas concentrations in the region of a hazardous concentration threshold, but in the region of a much lower comfort threshold (please see paragraphs [0006] and [00018]). Therefore the temperature-compensation of the gas sensor is important.

The measuring precision of gas sensors detecting gas concentrations without temperature-compensation is a function of the temperature of the surroundings (please see paragraph [0004]) and consequently unfavorably affected by large variations in temperature. Especially in a passenger compartment of a vehicle, the circulating air portion and the intake air portion can show significant differences in their temperatures.

Chatterjee discloses an apparatus for detecting organic compounds, carbon dioxide concentration or a leak of refrigerant from an air conditioning apparatus of an air conditioning system. The air conditioning system is a closed loop system whereby air or gas from the climate

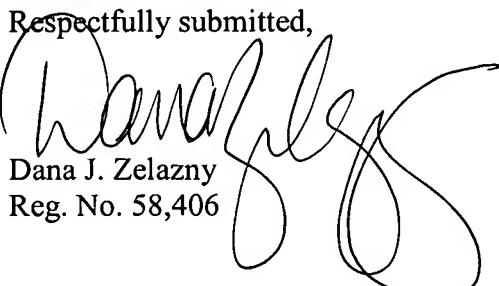
controlled environment within an enclosure circulates, either continuously or on demand through a process unit, which includes the HVAC components. The only intake air portion entering this closed systems is the inflow of air, when a vent door for removal of the contamination is opened. With this limited portion of intake air the air temperature will not change rapidly so that no temperature-compensation of the sensor signal is necessary. Dussault (U.S. Patent 5,261,415) and Wood (U.S. Patent 5,261,415) disclose different kinds of gas sensors.

Neither Chatterjee, Dussault nor Wood, alone or in combination, teaches or suggests a method to regulate a circulating air portion and/or intake air portion in a passenger compartment of a vehicle, whereby the measuring error of the gas concentration measured by the gas sensor due to the temperature dependence is compensated by the sensor for temperature compensation, and whereby the measured temperature is used in addition to regulate the circulating air portion and/or intake air portion. Reconsideration and withdrawal of the rejections is respectfully requested.

CONCLUSION

Entry of the amendments presented herein is respectfully requested. The Examiner is invited to contact the undersigned with any questions.

Respectfully submitted,


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